IN THE CLAIMS

1. (Original) An optical sensor comprising:
a bandpass filter;
a first detector responsive to a low wavelength passed by the bandpass filter; and
a second detector responsive to a high wavelength passed by the bandpass filter.

2. (Original) The optical sensor of claim 1 wherein the detectors are formed in a stacked relationship.

3. (Original) The optical sensor of claim 1 wherein the bandpass filter comprises an adjustable band pass filter.

4. (Original) The optical sensor of claim 1 wherein the bandpass filter comprises a Fabry-Perot etalon.

5. (Original) The optical sensor of claim 1 wherein the detectors are respectively formed of $Al_xGa_{1-x}N$ and $Al_yGa_{1-y}N$ where $y<x$.

6. (Original) The optical sensor of claim 1 wherein the detectors are respectively formed of $Al_xGa_{1-x}N$ and InGaN.

7. (Original) The optical sensor of claim 1 wherein the first detector absorbs wavelengths of approximately 250 to 300 nanometers.

8. (Original) The optical sensor of claim 1 wherein the second detector absorbs wavelengths of approximately 290 to 390 nanometers.

9. (Original) The optical sensor of claim 1 wherein the detectors are formed on a sapphire substrate.

10. (Original) An optical sensor comprising:

a bandpass filter;

an in-band source that illuminates a sample proximate the bandpass filter;

a first detector responsive to a low wavelength passed by the bandpass filter; and

a second detector responsive to a high wavelength passed by the bandpass filter.

11. (Original) The optical sensor of claim 10 wherein the in-band source is selected from the group consisting of laser, light emitting diode, ultraviolet source, and superluminescent diode.

12. (Original) The optical sensor of claim 10 wherein the detectors are formed on a sapphire substrate, and luminance from the sample passes through the sapphire substrate prior to being absorbed by the detectors.

13. (Original) The optical sensor of claim 10 and further comprising charge detectors coupled to the detectors.

14. (Original) The optical sensor of claim 13 and further comprising:

a first substrate;

a second substrate; and

a third substrate in which the charge detectors are formed.

15. (Original) The optical sensor of claim 14 wherein the third substrate comprises further circuitry associated with the charge detectors.

16. (Original) The optical sensor of claim 10 and further comprising:

a first substrate having the bandpass filter formed thereon;

a second substrate having the first and second detectors formed thereon.

17. (Previously Presented) The optical sensor of claim 16 wherein the first and second substrates are positioned such that first substrate is positioned between a biosample and the second substrate.

18. (Original) The optical sensor of claim 17 wherein the first and second substrates are coupled to each other by bump bonds.

19. (Original) The optical sensor of claim 10 wherein the bandpass filter comprises a Fabry-Perot etalon.

20. (Original) The optical sensor of claim 10 wherein the detectors are respectively formed of $Al_xGa_{1-x}N$ and $Al_yGa_{1-y}N$ where $y<x$.

21. (Original) The optical sensor of claim 10 wherein the detectors are respectively formed of $Al_xGa_{1-x}N$ and InGaN.

22. (Original) The optical sensor of claim 10 wherein the first detector absorbs wavelengths of approximately 250 to 300 nanometers and the second detector absorbs wavelengths of approximately 290 to 390 nanometers.

23. (Original) The optical sensor of claim 10 wherein the sample is inorganic, or a biosample.

24. (Original) An optical sensor comprising:

a bandpass filter supported on a glass substrate;

a first detector formed on a sapphire substrate responsive to a low wavelength passed by the bandpass filter; and

a second detector formed on the first detector responsive to a high wavelength passed by the bandpass filter.

25 - 41 (Withdrawn)